

FEASIBILITY STUDY


**White Lake
US 701/NC 41 Bypass
Bladen County**

R-3429

Prepared by
Program Development Branch
Division of Highways
N. C. Department of Transportation



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Date

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I. General Description

This feasibility study describes the proposed construction of new 2-lane facilities on 4-lane rights-of-way to provide a bypass for US 701 and NC 41 north of White Lake. The total construction length of US 701 and NC 41 is 1.4 miles (2.2 km) and 2.0 miles (3.2 km) respectively. The location of the bypass is shown on Figure 1.

The studied cross sections are 2-lane rural shoulder sections with 12-foot (3.6-m) wide travel lanes and 10-foot (3.0-m) wide shoulders of which 4 feet (1.2 m) will be paved. Also included as part of the construction estimates is grading for future widening to 4-lane median divided facilities. The required right-of-way width is 250 feet (76.2 m).

The estimated cost of right-of-way and construction is \$7,500,000 as follows:

Right-of-Way	\$1,500,000
Construction	<u>6,000,000</u>
Total Cost	\$7,500,000

It is anticipated that 2 businesses and 6 residences will be relocated as a result of this project.

This study is the initial step in the planning and design process for this project and is not to be considered the product of exhaustive environmental or design investigations. The purpose of this study is to describe the alternative treatments including costs, and identify potential problem areas that deserve consideration in the planning and design phases.

II. Existing Conditions

This project was requested by the Town of White Lake to reduce the commercial traffic in the Town of White Lake city limits.

In the Statewide Functional Classification System, US 701 is classified as a rural minor arterial and NC 41 is classified as a rural major collector. Both roadways are classified as major thoroughfares in the White Lake Thoroughfare Plan.

From the west, approaching White Lake, US 701 and NC 41 run concurrently. Within the town limits and just north of the lake, the roads split with US 701 proceeding to the north and NC 41 proceeding to the east.

Within the project terminals, both US 701 and NC 41 are 2-lane rural shoulder sections with a 24-foot (7.3-m) pavement width. US 701 has 10-foot (3.0-m) wide soil shoulders and NC 41 has 7-foot (2.1-m) wide soil shoulders. From approximately 0.3 miles (0.5 m) west of the US 701/NC 41 split to the split, US 701/NC 41 is widened to a 3-lane section.

The studied corridors are generally undeveloped woodlands and farmlands with a few residences scattered throughout. The farmlands consist primarily of blueberry fields.

The White Lake area is recreational in nature with the population and traffic peaking in the summer months. Traffic on US 701 and NC 41 is a mix of passenger cars, trucks, recreational vehicles and bicycles. Truck traffic is heavy (12% to 15%) due to the location of North Carolina Department of Transportation and North Carolina Department of Corrections facilities just west of White Lake and two logging companies located 5 miles (8.0 km) west of White Lake.

During the period from April 1, 1992, through March 31, 1995, there were 14 accidents reported at the US 701/NC 41 intersection. There were no fatalities reported during the period, but 11 of the accidents resulted in injuries to 27 persons. The most prevalent accident types were angle accidents (87.50%) and 46.5% of the accidents involved trucks.

It is estimated that the 1995 traffic volume north of White Lake on US 701 is approximately 3,300 vehicles per day (vpd). The estimated traffic volume east of White Lake on NC 41 is approximately 2,900 vpd. The estimated traffic volume west of White Lake on US 701/NC 41 is approximately 5,000 vpd. It is estimated that by the design year (2020) traffic volumes will reach 4,800 vpd, 4,100, and 7,200 vpd respectively if improvements are not made.

It is also estimated that the US 701/NC 41 intersection and intersecting roadways are currently operating at a Level of Service C and may reach Level D before the design year. With the studied improvements, it is estimated that the existing intersection and roadways will operate at a Level B through the design year and the bypass will operate at a Level C through the design year.

III. Detailed Description

This feasibility study describes the proposed construction of new 2-lane facilities on 4-lane rights-of-way to provide a bypass for US 701 and NC 41 north of White Lake. The total construction length of US 701 and NC 41 is 1.4 miles (2.2 km) and 2.0 miles (3.2 km) respectively. The location of the bypass is shown on Figure 1.

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At the west project terminal, the US 701/NC 41 portion of the bypass should connect to existing US 701/NC 41 at approximately 0.8 miles (1.3 km) west of the existing US 701/NC 41 intersection. On the north, the US 701 portion of the bypass should connect to existing US 701 at approximately 0.9 miles (1.4 km) north of the existing US 701/NC 41 intersection. The NC 41 portion of the bypass should intersect the new US 701 at approximately 0.5 miles (0.8 km) northwest of the existing US 701/NC 41 intersection and should connect to existing NC 41 at approximately 0.2 miles (0.3 km) east of SR 1514.

Cul-de-sacs should be constructed on existing US 701/NC 41 and US 701 at those points where the bypass will intersect and new connectors should be constructed from existing US 701/NC 41 and NC 41 to the bypass.

All new intersections should be at grade and stop sign controlled.

A new culvert will be required at Little Colly Creek.

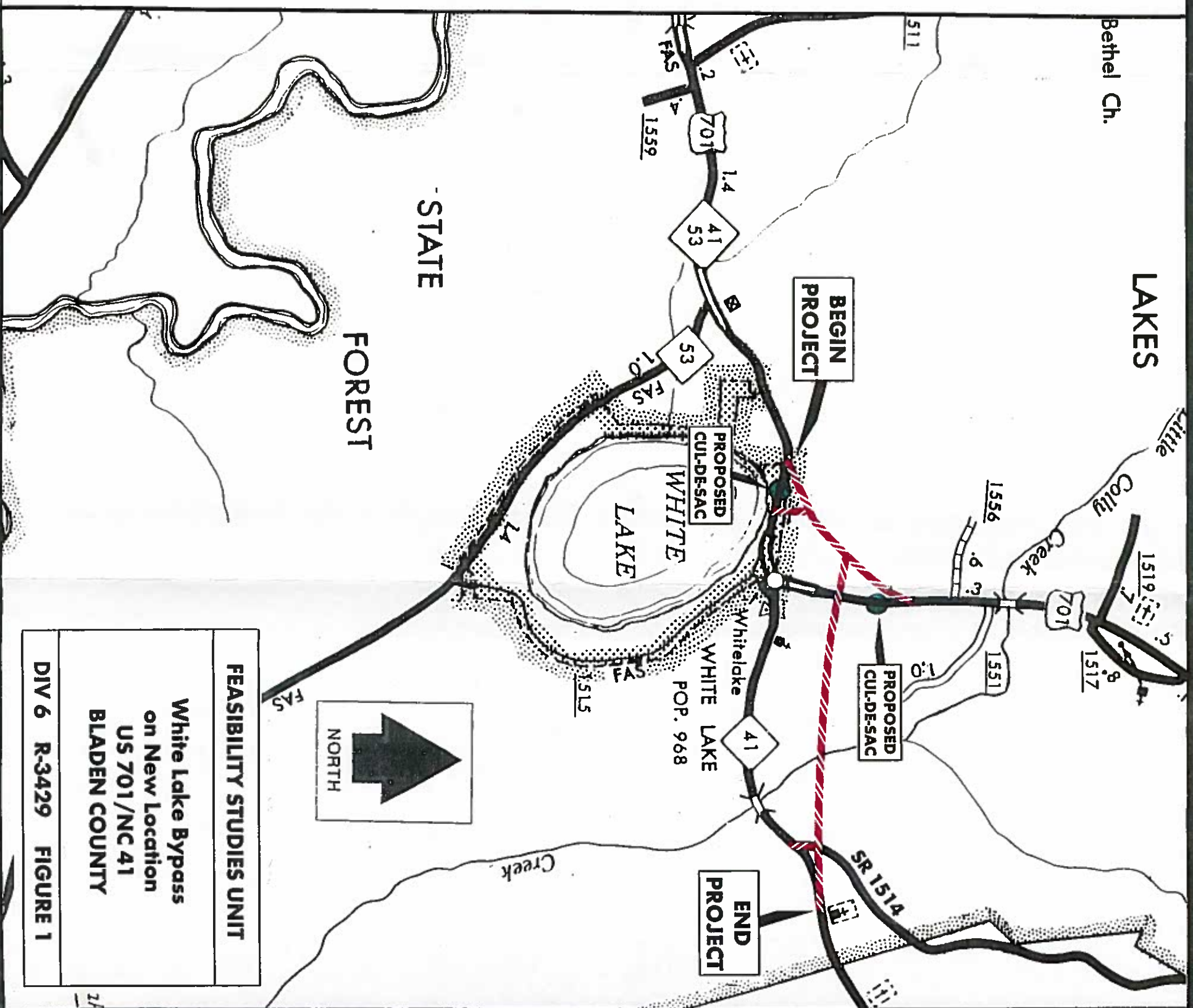
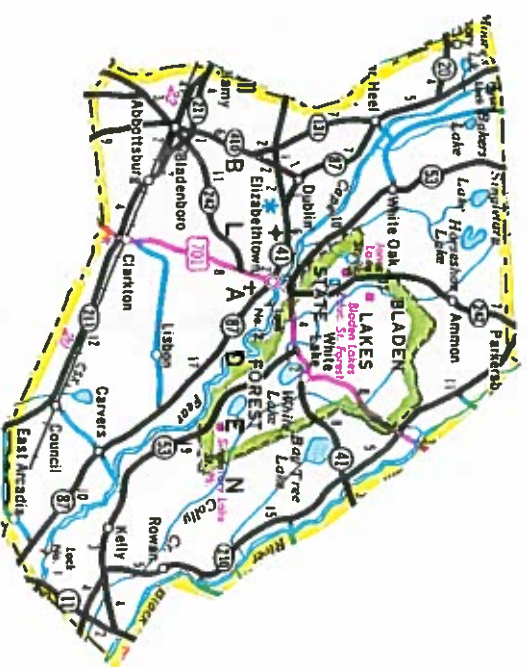
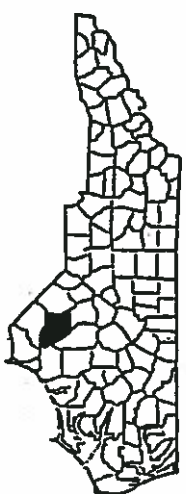
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IV. Other Comments

An environmental screening was not conducted for this study; however, due to the construction in the area of Little Colly Creek, Corps of Engineers permits and wetlands mitigation may be required. The costs for wetlands mitigation is not included as a part of the above estimated project costs.



FEASIBILITY STUDIES UNIT

White Lake Bypass
on New Location
US 701/NC 41
BLADEN COUNTY

DIV 6 R-3429 FIGURE 1